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Docket # 4293

Publication of Application for Utility Model Registration  
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Application for Utility Model Registration  
June 8, 1980

To: Director-General of the Patent Office

1. Title of the invention

A lighting fitting.

2. Inventors

Address 5-chome 1-1 Ohfuna, Kamakura-shi, Kanagawa-ken  
Mitsubishi Denki Kabushiki Kaisha  
Ohfuna Seisakusho

Name Kenichi Ishii (and two others)

3. Applicant for utility model registration

Address 〒100

2-chome 2-3 Marunouchi, Chiyoda-ku, Tokyo-to

Name (601) Mitsubishi Denki Kabushiki Kaisha

Representative Sadakazu Shindo

4. Agent

Address 〒100

2-chome 2-3 Marunouchi, Chiyoda-ku, Tokyo-to

Mitsubishi Denki Kabushiki Kaisha

Name 6699 Patent Attorney Shinichi Kuzuno (and one other)

(Contact to: 03(435)6095 Patent Department)

5. List of attached documents

Specification one copy

Drawings one set

Power of attorney one copy

6. Inventor, applicant for utility model registration or agent other than those mentioned above

Inventors

Address 5-chome 1-1 Ohfuna, Kamakura-shi  
Mitsubishi Denki Kabushiki Kaisha  
Ohfuna Seisakusho

Name Junnosuke Hashimoto

Address 2-chome 14-40 Ohfuna, Kamakura-shi  
Mitsubishi Denki Kabushiki Kaisha  
Design Center

Name Fuminobu Takizawa

Agent

Address 〒100  
2-chome 2-3 Marunouchi, Chiyoda-ku, Tokyo-to  
Mitsubishi Denki Kabushiki Kaisha

Name 7375 Patent Attorney Masuo Ohiwa

## Specification

### 1. Title of the Invention

A lighting fitting.

### 2. Claim

A lighting fitting wherein one connector of a pair of connectors is connected to a lamp with a cord, the other connector, which is connected to electric components such as a ballast and a switch that are mounted inside a lighting fitting body, is fixed on an electric component mounting base, and these connectors are coupled together to constitute a lighting circuit for the lamp, said lighting fitting being characterized in that the electric component mounting base comprises a connector holding part that is formed by making a part of a base face thereof protrude in a U shape and protrusions that are made to protrude at the front and at the rear of the connector holding part to energize the connector being inserted in the connector holding part so that the connector is pressed against the lower inner face of the connector holding part.

### 3. Detailed Description of the Invention

The present invention relates to a lighting fitting having connectors, and in particular relates to the mounting structure of the connectors.

Up to the present, a typical mounting of the connectors in lighting fittings of this kind is as shown in Fig. 6 through Fig. 8. A plate-shaped connector mounting piece (9) having a connector insertion hole (9'), which is punched out at the center thereof and is of the same shape as that of the connector (1), is integrally provided on a base face of an electric component mounting base (8) of a synthetic resin, and a connector (1) is fitted into the connector insertion hole (9'). Hence this mounting has a defect that the strength of the connector mounting piece (9) to hold the connector (1) is weak and wants reliability. Furthermore, as the electric component mounting base (8) has a saddle shape, at the time of forming the electric component mounting base (8) the forming of the connector insertion hole (9') in the connector mounting piece (9) requires provision of a side core for the mold, and this poses problems such as higher costs of the mold.

The present invention was made with an object of eliminating the above-mentioned variety of defects.

In the following, with reference to Fig. 1 through Fig. 5, an embodiment of the

present invention will be described. (1) denotes a connector that comprises pin insertion holes (3) each differing in shape and being provided in the front face of a rectangular-parallelepipedic connector body (2) of a synthetic resin, a pair of guiding parts (4) being protrusively provided on the top face thereof on the front face side, of which rear end parts (4a) being bent in a L form, and a pair of straight guides (8) being provided protrusively on the bottom face thereof on the rear face side, and further comprises curved fitting-on pieces (6), of which one end is integrally provided on the connector body (2) at the top end part of the side face. (7) denotes leads coming out from the connector (1). (8) denotes an electric component mounting base of a synthetic resin, which has a U-shaped section and of which both wings (8b) are fixed on the lower face of the lighting fitting body (12), and the base face (8a) is provided with a connector holding part (9), which is partly directed downward from the lighting fitting body (12) and extruded into a U shape so that it can hold the above-mentioned connector (1) on three faces, namely, the top face and both the side faces, and protrusions (10), (11) formed protrusively at the front and the rear of the holding part (9) in the connector insertion direction (A). Both the protrusions (10), (11) are inclined so that they are lower on the side of the connector insertion direction (A), and the protrusion (10) that is provided on the connector insertion port side is divided into three parts so that the guides (5) that are provided on the bottom face of the above-mentioned connector (1) can be inserted. (9a) denotes a connector guiding groove that is provided in the inner bottom face of the above-mentioned connector holding part (9), and the guiding parts (4) of the connector (1) are inserted into the connector guiding groove (9a). The connector guiding groove (9a) is provided with positioning parts (9b) that prevent the rear end parts (4a) of the guiding parts (4) from passing through the connector guiding groove (9a). (13) denotes a cord that is connected to a power source. (14) denotes a shade, and (15) denotes electric components such as a ballast and a switch. (16) denotes a lamp, (17) is a male connector that is connected, by means of a cord, to a lamp socket (18) that is connected to the lamp cap, and the male connector (17) is electrically coupled with the above-mentioned female connector (1). (20) denotes a lower face cover. According to the above-mentioned embodiment, in mounting the connector (1) in the connector holding part (9), as shown in Fig. 1, the connector (1) is pushed into the connector holding part (9) from the direction A till the guiding part rear ends (4a) of the connector (1) rest on the positioning parts (9b) of the connector guiding groove (9a). Under this condition, the fitting-on pieces (6) elastically press the inner side faces of the connector holding part (9), and the

protrusions (10), (11) press the connector body (2) against the inner bottom face of the connector holding part (9), thus the connector (1) is securely fixed in the connector holding part (9). Moreover, as the connector holding part (9) is formed by means of a pair of molds that travel in the molding direction when the electric component mounting base (8) is molded, conventional side cores are not needed, and the costs of molds are lowered.

As the present invention has the above-mentioned construction, it has practical effects that the mounting of the connector can be made reliably and the costs of making molds are lowered.

#### 4. Brief Description of the Drawings

Fig. 1 through Fig. 5 show an embodiment of the present invention. Fig. 1 is an exploded perspective view of some essential parts. Fig. 2 is a perspective view showing the rear side of the connector. Fig. 3 is a perspective view showing the connector that is mounted in the electric component mounting base. Fig. 4 is an enlarged perspective view of the connector holding part. Fig. 5 is a longitudinal sectional view of the lighting fitting. Fig. 6 through Fig. 8 show a conventional example. Fig. 6 is an exploded perspective view of some essential parts. Fig. 7 is a perspective view showing the connector that is mounted on the electric component mounting base. Fig. 8 is a longitudinal sectional view of the lighting fitting.

In these drawings, (1) is a female connector, (8) is an electric part mounting base, (8a) is a base face, (9) is a connector holding part, (10) and (11) are protrusions, and (17) is a male connector.

In the respective drawings the same mark indicates an identical or corresponding part.

Agent Shinichi Kuzuno

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(4000円)

実用新案登録願

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昭和 年 月 日

特許庁長官殿

1. 考案の名称

照明器具

2. 考案者

住所

神奈川県横浜市大船五丁目1番1号

三菱電機株式会社 大船製作所内

氏名

石井 隆二

(外2名)

3. 実用新案登録出願人

郵便番号 100

住所

東京都千代田区丸の内二丁目2番3号

名称 (601) 三菱電機株式会社

代表者 進藤 貞和

4. 代理人

郵便番号 100

住所

東京都千代田区丸の内二丁目2番3号

三菱電機株式会社内

氏名 (6699) 代理士 葛野 信



(外1名)

5. 添付書類の目録

(連絡先 03(435)6095特許部)

明細書	1通
図面	1通
委任状	1通

55 085023

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## 明 細 書

### 1 考案の名称

照明器具

### 2 実用新案登録請求の範囲

一対のコネクタの一方をコードを介してランプに接続するとともに、照明器具本体の内部に装着された安定器、スイッチ等の電装品に接続される他方のコネクタを電装品取付台に固定し、それらコネクタ同士を結合することによつてランプの点灯回路を構成したものにおいて、電装品取付台は、基面の一部をコ字状に突出成形したコネクタ把持部と、このコネクタ把持部の前後に突設されたコネクタ把持部に挿入されたコネクタがコネクタ把持部の下部内面に圧接されるように付勢する突起とを有していることを特徴とする照明器具。

### 3 考案の詳細な説明

本考案はコネクタを有する照明器具に係り、詳しくはコネクタの取付構造に関するものである。

(1)

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従来、この種照明器具におけるコネクタの取付けは、その代表的なものとして第6図ないし第8図に示すようなものがある。即ち合成樹脂製の電装品取付台(8)の基面に、中央部にコネクタ(1)と同一形状に打抜かれたコネクタ挿通孔(9)を形成した板状のコネクタ取付片(9)を一体的に突設し、そのコネクタ挿通孔(9)にコネクタ(1)を嵌装させるものである。したがってコネクタ取付片(9)はコネクタ(1)を保持する力が弱く確実性に欠ける欠点があつた。また電装品取付台(8)を成形する際、その電装品取付台(8)が鞍形を成しているため、コネクタ取付片(9)のコネクタ挿通孔(9)の形成には金型にサイドコアが必要となり、金型コストが高くなる等の問題があつた。

本考案は上記した種々の欠点を除去することを目的としてなされたものである。

以下本考案の一実施例を第1図ないし第4図に基づいて説明する。(1)は直方体を成す合成樹脂製のコネクタ本体(2)の前面に設けられた夫々

形状の異なるピン挿入孔(3)と。上面の前面側に突設された末端部(4a)がL形に折曲する一对の案内部(4)と。底面の裏面側に突設された一对の直線状案内体(5)とを有し。かつ側面の先端部にコネクタ本体(2)と一体的に一端が連設された湾曲した係止片(6)をもつコネクタ。(7)はこのコネクタ(1)より外部に導出されるリード線。(8)は照明器具本体12の下面にその両翼片(8b)が固定された断面形状がコ字形した合成樹脂製の電装品取付台で。基面(8a)にはその一部を照明器具本体12の下方向に向け。上記コネクタ(1)の上面および両側面の3面を把持できるようにコ字形に押出成型されたコネクタ把持部(9)と。この把持部(9)のコネクタ挿入方向(A)の前後に位置する箇所突起10。11が突設されている。この突起10。11はいずれもコネクタ挿入方向(A)側が低くなるように傾斜しており。さらにコネクタ挿入口側に設けられた突起10は。上記コネクタ(1)の底面に設けられた案内体(5)を嵌挿できるように3分割されている。また(9a)は上記コネクタ把持部

(3)

(9)の底面内面に設けられ、コネクタ(1)の案内部(4)を嵌挿するとともに、その案内部(4)の末端部(4a)の通過を阻止する位置決め部(9b)を形成したコネクタ案内溝。なお(1)は電源に接続されるコード、(2)はセード、(3)は安定器、スイッチ等の電気部品、(5)はランプ、(6)はランプ口金に接続されるランプソケット(7)とコード(1)を介して接続される雄型のコネクタであり、上記雌型コネクタ(1)と電気的に連結される。(8)は下面カバー。したがって上記の実施例によれば、コネクタ(1)をコネクタ把持部(9)に取付けるに際しては、第1図に示すように、コネクタ(1)をA方向よりコネクタ把持部(9)にコネクタ(1)の案内部末端(4a)がコネクタ案内溝(9a)の位置決め(9b)と衝き合わさるまで押し入れれば、係止片(6)がコネクタ把持部(9)の内側面を弾圧しており、また突起(10)、(11)がコネクタ本体(2)をコネクタ把持部(9)の内底面に押圧することになり、コネクタ(1)はコネクタ把持部(9)に確実に固定される。しかもコネクタ把持部(9)は電装品取付台(8)の成型時に、

その成型方向に移動する一対の金型でもつて成型されるため、従来のようなサイドコアを必要とせず、金型代が安価になる。

この考案は以上に述べたように構成しているものであるから、コネクタの取付けが確実になり、又、金型製作費も安価ですむなどの実用的効果を有するものである。

#### 4 図面の簡単な説明

第1図ないし第5図は本考案の一実施例を示すもので、第1図は要部の分解斜視図、第2図はコネクタの裏側を示す斜視図、第3図はコネクタを電装品取付台に取付けた状態を示す斜視図、第4図はコネクタ把持部の拡大斜視図、第5図は照明器具の縦断面図、第6図ないし第8図は従来例を示し、第6図は要部の分解斜視図、第7図はコネクタを電装品取付台に取付けた状態を示す斜視図、第8図は照明器具の縦断面図である。

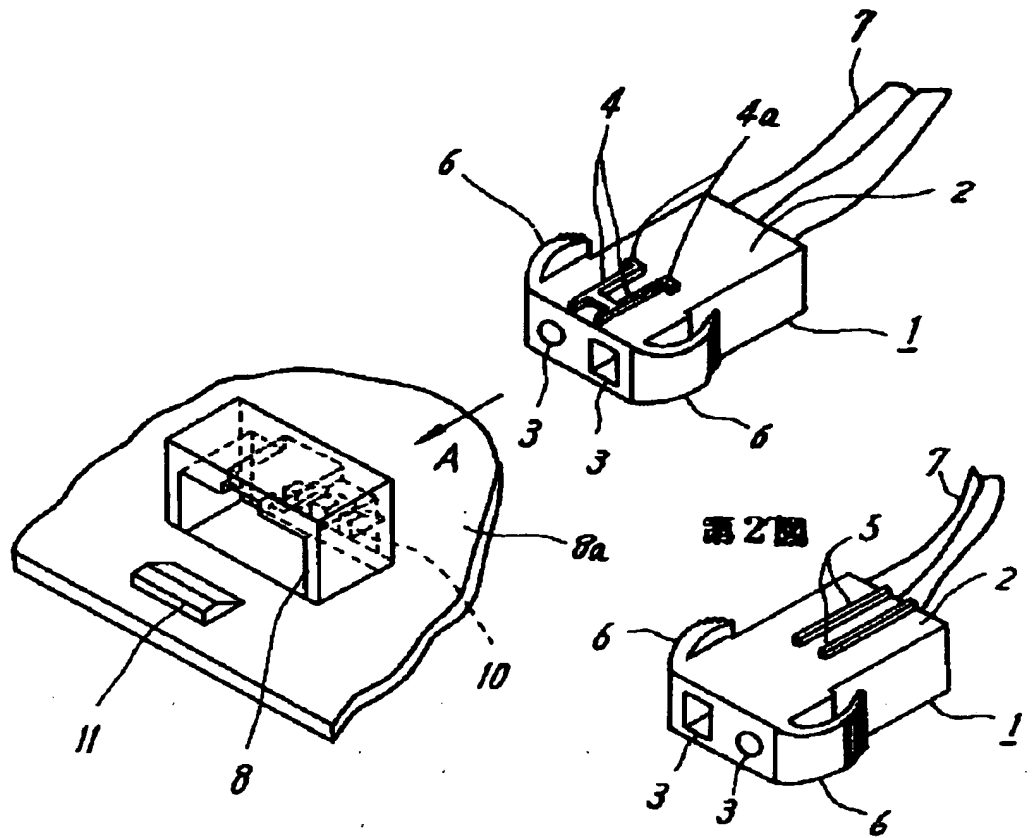
図中、(1)は雌型コネクタ、(8)は電装品取付台、(8a)は基面、(9)はコネクタ把持部、(10)、(11)は突

起。即ち雄型コネクタ。

尚、各図中同一符号は同一または相当部分を示す。

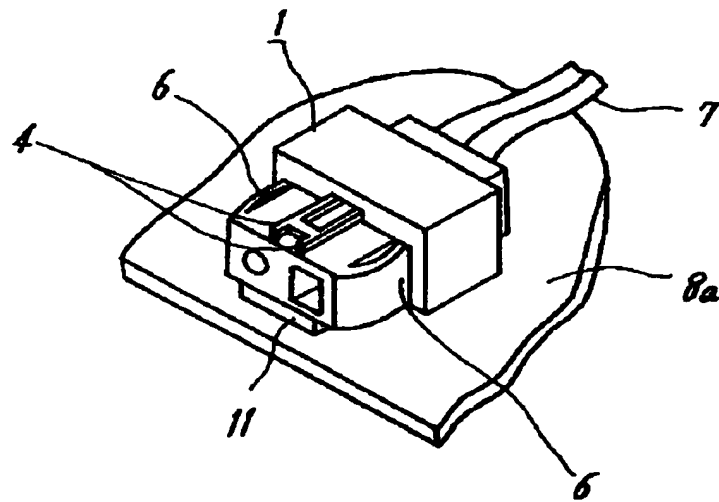
代理人 葛 野 信 一

第1圖



第2圖

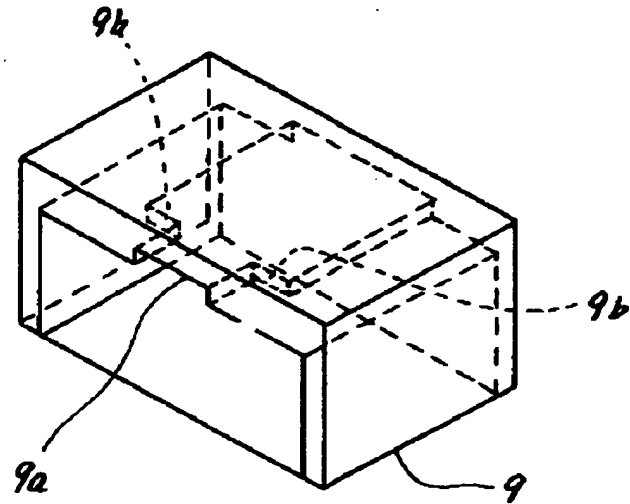
第3圖



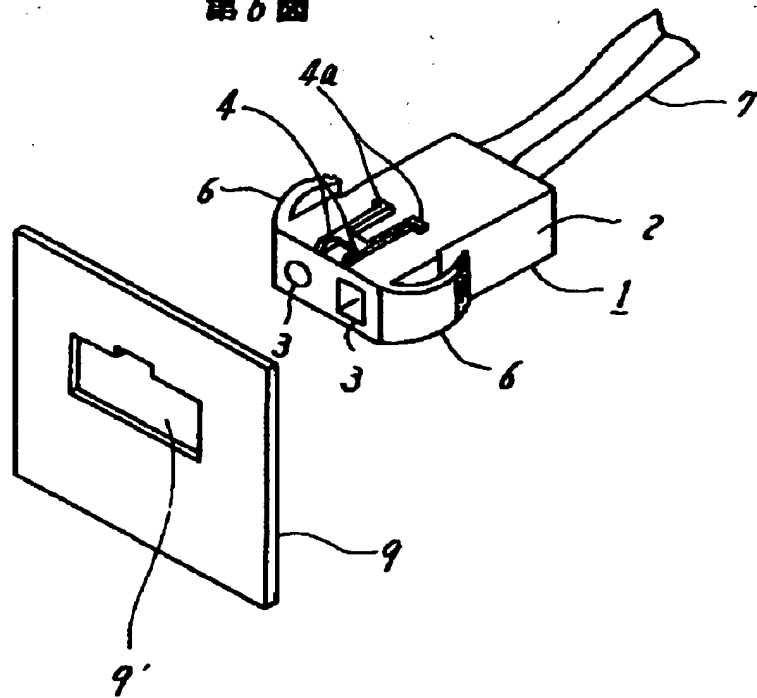
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島野信一

第4圖

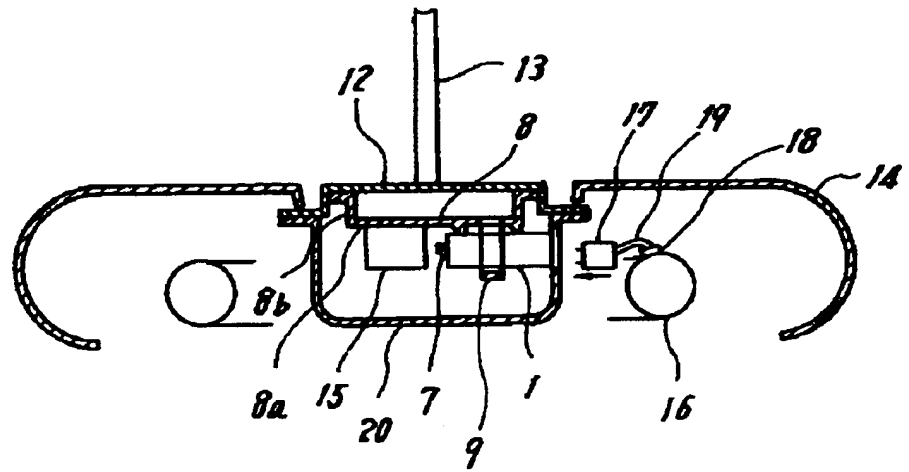


第6圖



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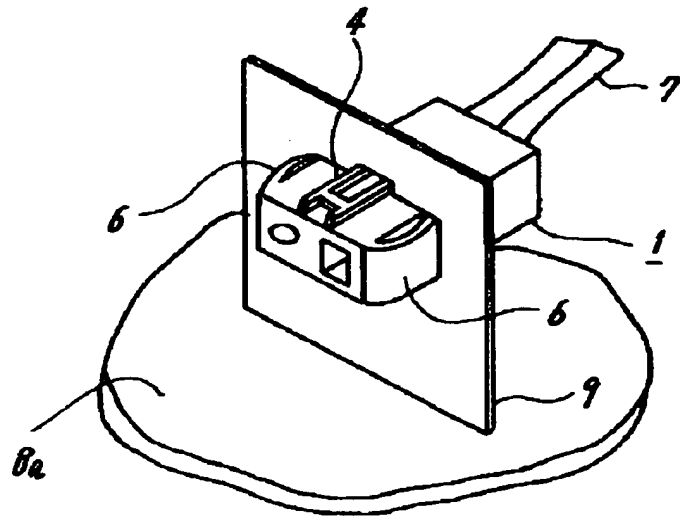
第5圖



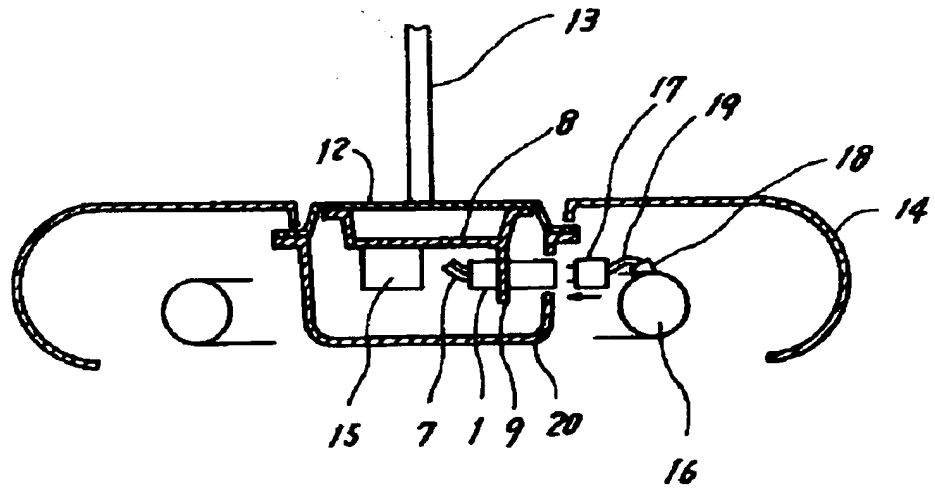
12,871/2

信一 野島

第7図



第8図



一 野 崎 氏

4/1

6. 前記以外の考案者、実用新案登録出願人または代理人

考案者

住所 <sup>カマフラシマ</sup>鎌倉市大船五丁目1番1号  
<sup>ミヅデン</sup>三菱電機株式会社 <sup>サナブネ</sup>大船製作所内

氏名 <sup>ヘイ</sup>橋 <sup>キ</sup>本 <sup>マサノブ</sup>博之亮

住所 <sup>カマフラシマ</sup>鎌倉市大船二丁目14番40号  
<sup>ミヅデン</sup>三菱電機株式会社 <sup>ナイ</sup>デザインセンター内

氏名 <sup>マサ</sup>滝 <sup>アツ</sup>夫 <sup>フミ</sup>文 <sup>ノブ</sup>信

代理人 郵便番号 100

住所 東京都千代田区丸の内二丁目2番3号

三菱電機株式会社内

氏名(7375)弁理士 大 岩 増 雄

大岩増雄

12671